

### ABSTRACT OF THE DISCLOSURE

A system includes a compressor receiving fluid from a low-pressure side of a circuit and outputting fluid to a high-pressure side of the circuit. The system also includes a motor drivingly connected to the compressor, at least one high-side sensor operable to measure fluid properties of the high-pressure side of the circuit, at least one current sensor operable to monitor a current drawn by the motor, and processing circuitry receiving fluid property and current information from the at least one high-side sensor and the at least one current sensor and processing the information to determine a system operating condition.